LIST OF CONTENTS
1992

Vol. 30, No. 1

1 Instructions for Contributors to *Toxicon*

R. S. NORTON, P. MAČEK, G. E. REID and R. J. SIMPSON — 13 Relationship between the cytolysins tenebrosin-C from *Actinia tenebrosa* and equinatoxin II from *Actinia equina*

A. PORATH, D. GILON, H. SCHULCHYNSKA-CASTEL, O. SHALEV, A. KEYNAN and J. BENBASSAT — 25 Risk indicators after envenomation in humans by *Echis coloratus* (mid-east saw scaled viper)

L. A. F. FERREIRA, O. B. HENRIQUES, I. LEBRUN, M. B. C. BATISTA, B. C. PREZOTO, A. S. S. ANDREONI, R. ZELNIK and G. HABERMEHL — 33 A new bradykinin-potentiating peptide (peptide P) isolated from the venom of *Bothrops jararacussu* (jararacuçu tapete, urutu dourado)

D. F. HWANG, L. C. LIN and S. S. JENG — 41 Occurrence of a new toxin and tetrodotoxin in two species of the gastropod mollusk Nassariidae

S. NAMIRANIAN and R. C. HIDER — 47 Use of HPLC to demonstrate variation of venom toxin composition in the Thailand cobra venoms *Naja naja kaouthia* and *Naja naja siamensis*

B. HÖGY, M.-E. DAUZENROTH, M. HUDEL, U. WELLER and E. HABERMANN — 63 Increase of permeability of synaptosomes and liposomes by the heavy chain of tetanus toxin

I. CHHATWAL and F. DREYER — 77 Biological properties of a crude venom extract from the greater weever fish *Trachinus draco*

I. CHHATWAL and F. DREYER — 87 Isolation and characterization of dracotoxin from the venom of the greater weever fish *Trachinus draco*

E. F. SANCHEZ, T. V. FREITAS, D. L. FERREIRA-ALVES, D. T. VELARDE, M. R. DINIZ, M. N. CORDEIRO, G. AGOSTINI-COTTA and C. R. DINIZ — 95 Biological activities of venoms from South American snakes

Short Communications

B. CÉARD, M.-E. DE LIMA, P. E. BOUGIS and M.-F. MARTIN-EAUCLAIRE — 105 Purification of the main β-toxin from *Tityus serrulatus* scorpion venom using high-performance liquid chromatography

E. O. EL-AMIN — 111 Issues in management of scorpion sting in children

International Society on Toxinology—Membership Application — i

Vol. 30, No. 2

Report and Abstracts — 117 Meeting on *Latrodectus* Neurotoxins from Venom Gland to Neuronal Receptors, Gaeta (LT), Italy, 9–11 June 1991

E. P. DE OLIVEIRA and M. M. TANIZAKI — 123 Effect of a proteinase inhibitor from the plasma of *Bothrops jararaca* on coagulant and myotoxic activities of *Bothrops* venoms

O. Baldacini, R. Girardot, G. A. Green, B. Rihn and H. Monteil — 129 — Comparative study of immunological properties and cytotoxic effects of *Clostridium difficile* toxin B and *Clostridium sordellii* toxin L

I. S. Sano-Martins and T. Daimon — 141 — Electron microscopic cytochemistry on the distribution of wheat germ agglutinin receptor on the platelet plasma membrane after treatment with convulxin isolated from *Crotalus durissus terrificus* venom

C. C. Yang, L. S. Chang, P. L. Ong and T. H. Tung — 151 — Immunochemical properties of *Naja naja atra* (Taiwan cobra) phospholipase A_2 using polyclonal and monoclonal antibodies

D. J. Meyers, K. C. Palmer, L. A. Bale, K. Kernacki, M. Preston, T. Brown and R. S. Berk — 161 — *In vivo* and *in vitro* toxicity of phospholipase C from *Pseudomonas aeruginosa*

S. A. Weinstein, R. C. Bell, C. R. Brown II, J. E. Fletcher and L. A. Smith — 171 — Pathologic changes induced by phospholipase A_2 isolated from the venom of Collett's snake, *Pseudechis colletti:* a light and electron microscopic study

D. Sarafov, B. Trifonov, A. Ivanov, E. Kamberov, Z. Zaprjanov, P. Pavlov and E. Georgieva — 187 — Effect of phosphatidylinositol-specific phospholipase C from *Bacillus thuringiensis* on solid spinocellular carcinoma

Short Communications

G. Bagetta, G. de Sarro, M. T. Corasaniti, D. Rotiroti and G. Nisticò — 197 — Epileptogenic effects of skin extracts from the Australian frog *Pseudophryne coriacea* after intracerebral microinfusion in rats

V. Williams and J. White — 202 — Variation in the composition of the venom from a single specimen of *Pseudonaja textilis* (common brown snake) over one year

R. J. Lewis — 207 — Ciguatoxins are potent ichthyotoxins

Reviews — 213

Announcement — 219 — Toxins as Scientific Tools: 4th Symposium of the Pan American Section of the International Society on Toxinology and 2nd Symposium of the Brazilian Society on Toxinology, 27–31 July 1992, Campinas, Brazil

Announcement — 220 — 8th International IUPAC Symposium on Mycotoxins and Phycotoxins, 8–12 November 1992, Mexico City, Mexico

International Society on Toxinology—Membership Application — i

Vol. 30, No. 3

Letter from the Editor
A. L. Harvey — 221

Letter to the Editor
H. Niemann — 223 — Clostridial neurotoxins—proposal of a common nomenclature

F. Kondo, Y. Ikai, H. Oka, N. Ishikawa, M. F. Watanabe, M. Watanabe, K.-I. Harada and M. Suzuki — 227 — Separation and identification of microcystins in cyanobacteria by frit-fast atom bombardment liquid chromatography/mass spectrometry

B. Lomonte, J. M. Gutiérrez, M. Ramírez and C. Díaz — 239 — Neutralization of myotoxic phospholipases A_2 from the venom of the snake *Bothrops asper* by monoclonal antibodies

M. R. V. Diniz and E. B. Oliveira	247	Purification and properties of a kininogenin from the venom of *Lachesis muta* (bushmaster)
K. D. Zimmerman, H. Heatwole and H. I. Davies	259	Survival times and resistance to sea snake (*Aipysurus laevis*) venom by five species of prey fish
R. M. Kini and H. J. Evans	265	Structural domains in venom proteins: evidence that metalloproteinases and nonenzymatic platelet aggregation inhibitors (disintegrins) from snake venoms are derived by proteolysis from a common precursor
M. J. Klowden, A. J. Vitale, M. J. Trumble, C. R. Wesson and W. R. Trumble	295	A bioassay for cobra cardiotoxin activity using semi-isolated cockroach heart
I. S. Blagbrough, P. T. H. Brackley, M. Bruce, B. W. Bycroft, A. J. Mather, S. Millington, H. L. Sudan and P. N. R. Usherwood	303	Arthropod toxins as leads for novel insecticides: an assessment of polyamine amides as glutamate antagonists
J. Sakurai, Y. Fujii and M. Nagahama	323	Effect of *p*-chloromercuribenzoate on *Clostridium perfringens* beta toxin
K. C. Barbaro, J. L. C. Cardoso, V. R. D. Eickstedt and I. Mota	331	Dermonecrotic and lethal components of *Loxosceles gaucho* spider venom
Short Communications		
A. S. Couto, T. Moraes-Santos, A. D. Azevedo, A. P. Almeida and L. Freire-Maia	339	Effects of toxin Ts-γ, purified from *Tityus serrulatus* scorpion venom, on the isolated rat atria
M. M. Azevedo-Marques, D. B. Ferreira and R. S. Costa	344	Rhabdomyonecrosis experimentally induced in Wistar rats by Africanized bee venom
R. J. Storella, A. L. Schouchoff, M. Fujii, J. Hill, J. E. Fletcher, M.-S. Jiang and L. A. Smith	349	Preliminary evidence for a postsynaptic action of β-bungarotoxin in mammalian skeletal muscle
R. W. Dickey, G. A. Fryxell, H. R. Granade and D. Roelke	355	Detection of the marine toxins okadaic acid and domoic acid in shellfish and phytoplankton in the Gulf of Mexico
Announcement	361	Next European IST Meeting in Paris
Announcement	362	Third Asia–Pacific Congress on Animal, Plant and Microbial Toxins
Bibliography of Toxinology	363	
International Society on Toxinology—Membership Application	i	

Vol. 30, No. 4

B. G. Stiles and F. W. Sexton	367	Immunoreactivity, epitope mapping and protection studies with anticonotoxin GI sera and various conotoxins
M. J. I. Paine, H. P. Desmond, R. D. G. Theakston and J. M. Crampton	379	Gene expression in *Echis carinatus* (carpet viper) venom glands following milking
S. Y. Huang, J. C. Perez, E. D. Rael, C. Lieb, M. Martinez and S. A. Smith	387	Variation in the antigenic characteristics of venom from the Mojave rattlesnake (*Crotalus scutulatus scutulatus*)
C. Ziolkowski, H. A. Murchison and A. L. Bieber	397	Effects of myotoxin *a* on fusion and contractile activity in myoblast–myotube cell cultures
L. Levine and Y. Shimizu	411	Antibodies to brevetoxin B: serologic differentiation of brevetoxin B and brevetoxin A

J. TORRES, M. CAMORLINGA-PONCE and O. MUÑOZ — 419 Sensitivity in culture of epithelial cells from rhesus monkey kidney and human colon carcinoma to toxins A and B from *Clostridium difficile*

M. T. ASSAKURA, M. DA GRAÇA SALOMÃO, G. PUORTO and F. R. MANDELBAUM — 427 Hemorrhagic, fibrinogenolytic and edema-forming activities of the venom of the colubrid snake *Philodryas olfersii* (green snake)

T. ZIGDON-ARAD, A. BDOLAH, E. KOCHVA and Z. WOLLBERG — 439 Activity of sarafotoxin/endothelin peptides in the heart and brain of lower vertebrates

W. K. HAYES — 449 Factors associated with the mass of venom expended by prairie rattlesnakes (*Crotalus v. viridis*) feeding on mice

Short Communications

M. A. FREITAS, P. W. GENO, L. W. SUMNER, M. E. COOKE, S. A. HUDIBURG, C. L. OWNBY, I. I. KAISER and G. V. ODELL — 461 Citrate is a major component of snake venoms

M. FAINZILBER and E. ZLOTKIN — 465 A new bioassay reveals mollusc-specific toxicity in molluscivorous *Conus* venoms

Bibliography of Toxinology — 471

International Society on Toxinology—Membership Application — i

Vol. 30, No. 5/6

Report and Abstracts — 475 Tenth World Congress on Animal, Plant and Microbial Toxins, Singapore, 3–8 November 1991

B. J. HAWGOOD — 573 Review article—Pioneers of anti-venomous serotherapy: Dr Vital Brazil (1865–1950)

C. K. BAUER, B. KRYLOV, P.-A. ZHOU and J. R. SCHWARZ — 581 Effects of *Buthus martensii* (Karsch) scorpion venom on sodium currents in rat anterior pituitary (GH_3/B_6) cells

S. WEISSENBERG, M. OVADIA and E. KOCHVA — 591 Inhibition of the proteolytic activity of hemorrhagin-e from *Crotalus atrox* venom by antihemorrhagins from homologous serum

F. AUDEBERT, M. SORKINE and C. BON — 599 Envenoming by viper bites in France: clinical gradation and biological quantification by ELISA

R. OTERO, R. G. OSORIO, R. VALDERRAMA and C. A. GIRALDO — 611 Efectos farmacologicos y enzimaticos de los venenos de serpientes de Antioquia y Choco (Colombia)

R. CHAPELL and P. ROSENBERG — 621 Specificity of action of β-bungarotoxin on acetylcholine release from synaptosomes

L. YANG, C. Y. KAO and T. YASUMOTO — 635 Actions of 6-*epi*tetrodotoxin and 11-deoxytetrodotoxin on the frog skeletal muscle fiber

L. YANG, C. Y. KAO and Y. OSHIMA — 645 Actions of decarbamoyloxysaxitoxin and decarbamoylneosaxitoxin on the frog skeletal muscle fiber

I. SCHRANNER, M. H. ERHARD, H. KALTNER and U. LÖSCH — 653 Isolation of immunogenic and lethal peptides of α-toxin from *Clostridium novyi* type B

Short Communications

D. F. HWANG, Y. H. TSAI, C. A. CHENG and S. S. JENG — 669 Comparison of paralytic toxins in aquaculture of purple clam in Taiwan

A. TUBARO, S. SOSA, M. BRUNO, P. M. B. GUCCI, L. VOLTERRA and R. DELLA LOGGIA — 673 — Diarrhoeic shellfish toxins in Adriatic Sea mussels evaluated by an ELISA method

Bibliography of Toxinology — 677

International Society on Toxinology—Membership Application — i

Vol. 30, No. 7

Letter to the Editor
J. MEIER and K. STOCKER — 681 — Towards a nomenclature system of animal, plant and microbial toxins

Letter to the Editor
S. DE ANDRADE NISHIOKA, P. V. P. SILVEIRA, R. UGRINOVICH and R. BORGES DE OLIVEIRA — 685 — Scorpion sting with cranial nerve involvement

G. S. BIGNAMI, T. J. G. RAYBOULD, N. D. SACHINVALA, P. G. GROTHAUS, S. B. SIMPSON, C. B. LAZO, J. B. BYRNES, R. E. MOORE and D. C. VANN — 687 — Monoclonal antibody-based enzyme-linked immunoassays for the measurement of palytoxin in biological samples

L. P. VERNON and A. ROGERS — 701 — Effect of calcium and phosphate ions on hemolysis induced by Pyrularia thionin and *Naja naja kaouthia* cardiotoxin

L. P. VERNON and A. ROGERS — 711 — Binding properties of Pyrularia thionin and *Naja naja kaouthia* cardiotoxin to human and animal erythrocytes and to murine P388 cells

N. YAHI, C. DEVAUX, P. MANSUELLE, M.-L. DEFENDINI and C. GRANIER — 723 — Monoclonal antibodies to toxin II from the scorpion *Androctonus australis Hector*: further characterization of epitope specificities and neutralizing capacities

C. ZIOLKOWSKI and A. L. BIEBER — 733 — Mojave toxin affects fusion of myoblasts and viability of myotubes in cell cultures

R. C. TOLEDO, C. JARED and A. BRUNNER JR — 745 — Morphology of the large granular alveoli of the parotoid glands in toad (*Bufo ictericus*) before and after compression

M. W. PENNINGTON, S. M. FESTIN, M. L. MACCECCHINI and W. R. KEM — 755 — Synthesis and characterization of a disulfide bond isomer of omega-conotoxin GVIA

Short Communications
M. GUERON, R. ILIA, E. SHAHAK and S. SOFER — 765 — Renin and aldosterone levels and hypertension following envenomation in humans by the yellow scorpion *Leiurus quinquestriatus*

G. S. SHEPHARD, P. G. THIEL, E. W. SYDENHAM, J. F. ALBERTS and W. C. A. GELDERBLOM — 768 — Fate of a single dose of the ^{14}C-labelled mycotoxin, fumonisin B_1, in rats

N. KIYATKIN, I. DULUBOVA, I. CHEKHOVSKAYA, A. LIPKIN and E. GRISHIN — 771 — Structure of the low molecular weight protein copurified with α-latrotoxin

R. A. YOUNG — 775 — Effects of Duvernoy's gland secretions from the eastern hognose snake, *Heterodon platirhinos*, on smooth muscle and neuromuscular junction

R. E. GAWLEY, K. S. REIN, M. KINOSHITA and D. G. BADEN — 780 — Binding of brevetoxins and ciguatoxin to the voltage-sensitive sodium channel and conformational analysis of brevetoxin B

E. C. Arantes, S. V. Sampaio, C. A. Vieira and J. R. Giglio — 786 — What is tityustoxin?

I. R. Falconer, M. Dornbusch, G. Moran and S. K. Yeung — 790 — Effect of the cyanobacterial (blue-green algal) toxins from *Microcystis aeruginosa* on isolated enterocytes from the chicken small intestine

J. W. Burnett, K. O. Long and H. M. Rubinstein — 794 — Beachside preparation of jellyfish nematocyst tentacles

Announcement — 797 — European Science Foundation—1992/1993 Programme of Fellowships in Toxicology and Environmental Toxicology

Announcement — 798 — Third Asia–Pacific Congress on Animal, Plant and Microbial Toxins

Bibliography of Toxinology — 799

International Society on Toxinology—Membership Application — i

Vol. 30, No. 8

M. Tomita, J. Togami, Y. Fujimoto, N. Ikekawa, R. Taguchi and H. Ikezawa — 801 — Effect of 22R-hydroxycholesterol on the action of sphingomyelinase from *Bacillus cereus* toward bovine erythrocytes

C. Valiente, E. Moreno, A. Sittenfeld, B. Lomonte and J. M. Gutiérrez — 815 — An electrophoretic study on phospholipase A_2 isoenzymes in the venoms of Central American crotaline snakes

N. Sugimoto, A. Miyamoto, Y. Horiguchi, T. Okabe and M. Matsuda — 825 — Inhibition of neuromuscular transmission in isolated mouse phrenic nerve–diaphragm by the enterotoxin of *Clostridium perfringens* type A

K. Blount, A. Johnson, C. Prior and I. G. Marshall — 835 — α-Conotoxin GI produces tetanic fade at the rat neuromuscular junction

S. T. Hahn, M. F. Capra and T. P. Walsh — 843 — Ciguatoxin–protein association in skeletal muscle of Spanish mackerel (*Scomberomorus commersoni*)

M. Maruyama, M. Sugiki, E. Yoshida, H. Mihara and N. Nakajima — 853 — Purification and characterization of two fibrinolytic enzymes from *Bothrops jararaca* (jararaca) venom

D. C. Smith, K. R. Reddi, G. Laing, R. G. D. Theakston and J. Landon — 865 — An affinity purified ovine antivenom for the treatment of *Vipera berus* envenoming

M. Suganuma, H. Fujiki, S. Okabe, S. Nishiwaki, D. Brautigan, T. S. Ingebritsen and M. R. Rosner — 873 — Structurally different members of the okadaic acid class selectively inhibit protein serine/threonine but not tyrosine phosphatase activity

C. F. Benjamin, C. R. Carlini and C. Barja-Fidalgo — 879 — Pharmacological characterization of rat paw edema induced by canatoxin, the toxic protein from *Canavalia ensiformis* (jack bean) seeds

J. W. Daly, S. I. Secunda, H. M. Garraffo, T. F. Spande, A. Wisnieski, C. Nishihira and J. F. Cover Jr — 887 — Variability in alkaloid profiles in neotropical poison frogs (Dendrobatidae): genetic versus environmental determinants

O. M. Adeyemo and A.-L. Sirén — 899 — Cardio-respiratory changes and mortality in the conscious rat induced by (+)- and (±)-anatoxin-a

R. J. Lewis, A. W. Wong Hoy and D. C. McGiffin — 907 — Action of ciguatoxin on human atrial trabeculae

Short Communications
R. J. Lewis and M. Sellin 915 Multiple ciguatoxins in the flesh of fish

H. I. Rosenberg, S. Kinamon, E. Kochva and A. Bdolah 920 The secretion of Duvernoy's gland of *Malpolon monspessulanus* induces haemorrhage in the lungs of mice

M. A. Cevallos, C. Navarro-Duque, M. Varela-Julia and A. C. Alagon 925 Molecular mass determination and assay of venom hyaluronidases by sodium dodecyl sulfate-polyacrylamide gel electrophoresis

B. W. Kemppainen, M. Mehta, R. Stafford and R. T. Riley 931 Effect of vehicle on skin penetration and retention of a lipophilic red tide toxin (PbTx-3)

Reviews 937

International Society on Toxinology—Membership Application i

Vol. 30, No. 9

C. Ouyang, C.-M. Teng and T.-F. Huang 945 Review article—Characterization of snake venom components acting on blood coagulation and platelet function

D. D. Kitts and D. S. Smith 967 Cross-reacting antigens in the butter clam (*Saxidoma giganteus*) and their relationship to total paralytic shellfish poison toxicity

D. F. Muldoon, E. A. Hassoun and S. J. Stohs 977 Ricin-induced hepatic lipid peroxidation, glutathione depletion, and DNA single-strand breaks in mice

M. Janssen, J. Meier and T. A. Freyvogel 985 Purification and characterization of an antithrombin III inactivating enzyme from the venom of the African night adder (*Causus rhombeatus*)

J. V. Martin, M. L. Koenig and W. O. McClure 1001 Purification and characterization of iotrochotin, a novel toxin from the Caribbean sponge *Iotrochota birotulata*, which selectively permeabilizes synaptosomes

E. Antunes, R. A. Marangoni, S. D. Brain and G. de Nucci 1011 *Phoneutria nigriventer* (armed spider) venom induces increased vascular permeability in rat and rabbit skin *in vivo*

S. B. Carroll, B. S. Thalley, R. D. G. Theakston and G. Laing 1017 Comparison of the purity and efficacy of affinity purified avian antivenoms with commercial equine crotalid antivenoms

J. J. Schmidt, S. A. Weinstein and L. A. Smith 1027 Molecular properties and structure–function relationships of lethal peptides from venom of Wagler's pit viper, *Trimeresurus wagleri*

W. S. K. Gbewonyo and D. J. Candy 1037 Separation of insecticidal components from an extract of the roots of male *Piper guineense* (West African black pepper) by gas chromatography

W. S. Skinner, P. A. Dennis, J. P. Li and G. B. Quistad 1043 Identification of insecticidal peptides from venom of the trap-door spider, *Aptostichus schlingeri* (Ctenizidae)

S. L. Geh, E. G. Rowan and A. L. Harvey 1051 Neuromuscular effects of four phospholipases A_2 from the venom of *Pseudechis australis*, the Australian king brown snake

A. N. Chanturia and V. K. Lishko 1059 Potential-dependent α-latrotoxin interaction with black lipid membranes

I. Gerads, G. Tans, L. Ya. Yukelson, R. F. A. Zwaal and J. Rosing 1065 Activation of bovine factor V by an activator purified from the venom of *Naja naja oxiana*

M. A. MATUSZEK, W. C. HODGSON, S. K. SUTHERLAND and R. G. KING — 1081 Pharmacological studies of jumper ant (*Myrmecia pilosula*) venom: evidence for the presence of histamine, and haemolytic and eicosanoid-releasing factors

J. KIVIRANTA, M. NAMIKOSHI, K. SIVONEN, W. R. EVANS, W. W. CARMICHAEL and K. L. RINEHART — 1093 Structure determination and toxicity of a new microcystin from *Microcystis aeruginosa* strain 205

F. CHAVES, J. M. GUTIÉRREZ and F. BRENES — 1099 Pathological and biochemical changes induced in mice after intramuscular injection of venom from newborn specimens of the snake *Bothrops asper* (Terciopelo)

C. J. COLLEDGE, J. P. HUNSPERGER, J. S. IMPERIAL and D. R. HILLYARD — 1111 Precursor structure of ω-conotoxin GVIA determined from a cDNA clone

Short Communications

K. C. BARBARO, J. L. C. CARDOSO, V. R. D. EICKSTEDT and I. MOTA — 1117 IgG antibodies to *Loxosceles* sp. spider venom in human envenoming

U. ORON, A. CHAIM-MATYAS and M. OVADIA — 1122 Histopathological changes in WEHI-3B leukemia cells following intoxication by cytotoxin P_4 from *Naja nigricollis nigricollis* venom

Bibliography of Toxinology — 1127

International Society on Toxinology—Membership Application — i

Vol. 30, No. 10

W. MARTZ — 1131 Review article—Plants with a reputation against snakebite

J. F. JELLETT, L. J. MARKS, J. E. STEWART, M. L. DOREY, W. WATSON-WRIGHT and J. F. LAWRENCE — 1143 Paralytic shellfish poison (Saxitoxin family) bioassays: automated endpoint determination and standardization of the *in vitro* tissue culture bioassay, and comparison with the standard mouse bioassay

E. G. ROWAN, H. VATANPOUR, B. L. FURMAN, A. L. HARVEY, M. O. M. TANIRA and P. GOPALAKRISHNAKONE — 1157 The effects of Indian red scorpion *Buthus tamulus* venom *in vivo* and *in vitro*

C. EDWARDS, K. A. BEATTIE, C. M. SCRIMGEOUR and G. A. CODD — 1165 Identification of anatoxin-A in benthic cyanobacteria (blue-green algae) and in associated dog poisonings at Loch Insh, Scotland

M. NAKAMURA, K. KINJOH and T. KOSUGI — 1177 Production of a monoclonal antibody against the thrombin-like enzyme, habutobin, from *Trimeresurus flavoviridis* venom

D. F. HWANG, L. C. LIN and S. S. JENG — 1189 Variation and secretion of toxins in gastropod mollusc *Niotha clathrata*

L. NIGRA and R. J. HUXTABLE — 1195 Hepatic glutathione concentrations and the release of pyrrolic metabolites of the pyrrolizidine alkaloid, monocrotaline, from the isolated perfused liver

N. F. HELUANY, M. I. HOMSI-BRANDEBURGO, J. R. GIGLIO, J. PRADO-FRANCESCHI and L. RODRIGUES-SIMIONI — 1203 Effects induced by bothropstoxin, a component from *Bothrops jararacussu* snake venom, on mouse and chick muscle preparations

L. A. F. FERREIRA, O. B. HENRIQUES, A. A. S. ANDREONI, G. R. F. VITAL, M. M. C. CAMPOS, G. G. HABERMEHL and V. L. G. DE MORAES — 1211 Antivenom and biological effects of ar-turmerone isolated from *Curcuma longa* (Zingiberaceae)

G. D. Laing, R. D. G. Theakston, R. P. Leite, W. D. Dias da Silva, D. A. Warrell and BIASG	1219	Comparison of the potency of three Brazilian *Bothrops* antivenoms using *in vivo* rodent and *in vitro* assays
B. S. Basavarajappa and T. V. Gowda	1227	Comparative characterization of two toxic phospholipases A_2 from Indian cobra (*Naja naja naja*) venom
B. Francis, C. Seebart and I. I. Kaiser	1239	Citrate is an endogenous inhibitor of snake venom enzymes by metal-ion chelation
S. Abdalla, Y. Bilto and A. Disi	1247	Effects of sand viper (*Cerastes cerastes*) venom on isolated smooth muscle and heart and on haematological and cardiovascular parameters in the guinea-pig
M. Ismail, A. J. Y. Fatani and T. T. Dabees	1257	Experimental treatment protocols for scorpion envenomation: a review of common therapies and an effect of kallikrein-kinin inhibitors
A. Yara, K. Noguchi, J. Nakasone, N. Kinjo, K. Hirayama and M. Sakanashi	1281	Cardiovascular effects of *Acanthaster planci* venom in the rat: possible involvement of PAF in its hypotensive effect
Short Communications		
F. Bergmann, B. Yagen and B. B. Jarvis	1291	The toxicity of macrocyclic trichothecenes administered directly into the rat brain
W. T. Shier and H. K. Abbas	1295	Occurrence of the mycotoxin chlamydosporol in *Fusarium* species
J. M. Gutiérrez, G. Rojas, N. Jorge da Silva Jr and J. Núñez	1299	Experimental myonecrosis induced by the venoms of South American *Micrurus* (coral snakes)
D. Mebs and T. Langelüddeke	1303	European viper venoms: haemorrhagic and myotoxic activities
M. Bruno, P. M. B. Gucci, E. Pierdominici, P. Sestili, A. Ioppolo, N. Sechi and L. Volterra	1307	Microcystin-like toxins in different freshwater species of *Oscillatoria*
Announcement	1313	International Workshop on Ciguatera Management
Bibliography of Toxinology	1315	
International Society on Toxinology—Membership Application	i	

Vol. 30, No. 11

Quanzhi Li and C. L. Ownby	1319	Evaluation of four different immunogens for the production of snake antivenoms
T. Fukagawa, H. Matsumoto, Y. Shimohigashi, T. Ogawa, N. Oda, C.-C. Chang and M. Ohno	1331	Sequence determination and characterization of a phospholipase A_2 isozyme from *Trimeresurus gramineus* (green habu snake) venom
L. D. Possani, B. M. Martin, A. Yatani, J. Mochca-Morales, F. Z. Zamudio, G. B. Gurrola and A. M. Brown	1343	Isolation and physiological characterization of taicatoxin, a complex toxin with specific effects on calcium channels
V. L. Salgado and W. R. Kem	1365	Actions of three structurally distinct sea anemone toxins on crustacean and insect sodium channels
W. R. Cohen, W. Wetzel and A. Kadish	1383	Local heat and cold application after eastern cottonmouth moccasin (*Agkistrodon piscivorus*) envenomation in the rat: effect on tissue injury

M. Maruyama, M. Sugiki, E. Yoshida, K. Shimaya and H. Mihara	1387	Broad substrate specificity of snake venom fibrinolytic enzymes: possible role in haemorrhage
F. Laraba-Djebari, M.-F. Martin-Eauclaire and P. Marchot	1399	A fibrinogen-clotting serine proteinase from *Cerastes cerastes* (horned viper) venom with arginine-esterase and amidase activities. Purification, characterization and kinetic parameter determination
E. W. Alves, A. Teixeira Da Silva Ferreira, C. Teixeira Da Silva Ferreira and C. R. Carlini	1411	Effects of canatoxin on the Ca^{2+}-ATPase of sarcoplasmic reticulum membranes
Z. Amzil, Y. F. Pouchus, J. Le Boterff, C. Roussakis, J.-F. Verbist, C. Marcaillou-Lebaut and P. Masselin	1419	Short-time cytotoxicity of mussel extracts: a new bioassay for okadaic acid detection
W. S. Fracki, D. Li, N. Owen, C. Perry, G. H. Naisbitt and L. P. Vernon	1427	Role of Tyr and Trp in membrane responses of Pyrularia thionin determined by optical and NMR spectra following Tyr iodination and Trp modification
W. S. Shestowsky, M. A. Quilliam and H. M. Sikorska	1441	An idiotypic–anti-idiotypic competitive immunoassay for quantitation of okadaic acid
V. M. Mahnir, E. P. Kozlovskaya and A. I. Kalinovsky	1449	Sea anemone *Radianthus macrodactylus*—a new source of palytoxin
M. Namikoshi, K. Sivonen, W. R. Evans, W. W. Carmichael, F. Sun, L. Rouhiainen, R. Luukkainen and K. L. Rinehart	1457	Two new L-serine variants of microcystins-LR and -RR from *Anabaena* sp. strains 202 A1 and 202 A2
K. Sivonen, O. M. Skulberg, M. Namikoshi, W. R. Evans, W. W. Carmichael and K. L. Rinehart	1465	Two methyl ester derivatives of microcystins, cyclic heptapeptide hepatotoxins, isolated from *Anabaena flos-aquae* strain CYA 83/1
M. Namikoshi, K. Sivonen, W. R. Evans, F. Sun, W. W. Carmichael and K. L. Rinehart	1473	Isolation and structures of microcystins from a cyanobacterial water bloom (Finland)
Short Communications		
K. Sivonen, M. Namikoshi, W. R. Evans, B. V. Gromov, W. W. Carmichael and K. L. Rinehart	1481	Isolation and structures of five microcystins from a Russian *Microcystis aeruginosa* strain CALU 972
N. Fujii, K. Kimura, N. Yokosawa, K. Tsuzuki and K. Oguma	1486	A zinc-protease specific domain in botulinum and tetanus neurotoxins
M. Yotsu-Yamashita, D. Mebs and T. Yasumoto	1489	Tetrodotoxin and its analogues in extracts from the toad *Atelopus oxyrhynchus* (family: Bufonidae)
M. V. Bermúdez, F. J. Martinez, M. E. Salazar, N. Waksman and A. Piñeyro	1493	Experimental acute intoxication with ripe fruit of *Karwinskia humboldtiana* (Tullidora) in rat, guinea-pig, hamster and dog
A. L. Harvey, D. L. Marshall and L. D. Possani	1497	Dendrotoxin-like effects of noxiustoxin
R. Shina, P. Rosenberg and E. Condrea	1501	An EDTA.Ca^{2+} complex inhibits the enzymatic activity but not the lethality of β-bungarotoxin
A. A. Nedospasov and E. V. Rodina	1505	Age changes of *Vipera berus* venom amidolytic activity
Bibliography of Toxinology	1509	
International Society on Toxinology—Membership Application	i	

Vol. 30, No. 12

H. PIRKLE and N. MARSH	1513	Nomenclature of exogenous hemostatic factors
J. ROSING and G. TANS	1515	*Review Article*—Structural and functional properties of snake venom prothrombin activators
K. SHIOMI, S. YAMAGUCHI, T. KIKUCHI, K. YAMAMORI and T. MATSUI	1529	Occurrence of tetrodotoxin-binding high molecular weight substances in the body fluid of shore crab (*Hemigrapsus sanguineus*)
Y. OSHIMA, C. J. BOLCH and G. M. HALLEGRAEFF	1539	Toxin composition of resting cysts of *Alexandrium tamarense* (Dinophyceae)
E. A. HASSOUN, D. BAGCHI, V. F. ROCHE and S. J. STOHS	1545	An assessment of potential chemoprotectant activity against ricin toxicity by mechanism based glycosidase inhibitors in macrophage J744A.1 cell cultures
N. YOKOSAWA, N. FUJII, K. TSUZUKI, K. KIMURA, B. SYUTO, K. MORIISHI and K. OGUMA	1555	Inhibition of norepinephrine secretion from digitonin permeabilized PC12 cells by botulinum type D toxin
A. M. JUDD, L. P. VERNON and R. M. MACLEOD	1563	*Pyrularia* thionin increases arachidonate liberation and prolactin and growth hormone release from anterior pituitary cells
W. IWAOKA, J. HORITA, R. SHIMOJO and T. TRAN	1575	Analysis of *Acanthurus triostegus* for marine toxins by the stick enzyme immunoassay and mouse bioassay
G. CORTHIER, F. LUCAS, S. JOUVERT and F. CASTEX	1583	Effect of oral *Saccharomyces boulardii* treatment on the activity of *Clostridium difficile* toxins in mouse digestive tract
M. L. FERREIRA, A. M. MOURA-DA-SILVA and I. MOTA	1591	Neutralization of different activities of venoms from nine species of *Bothrops* snakes by *Bothrops jararaca* antivenom
M. L. FERREIRA, A. M. MOURA-DA-SILVA, F. O. S. FRANÇA, J. L. CARDOSO and I. MOTA	1603	Toxic activities of venoms from nine *Bothrops* species and their correlation with lethality and necrosis
N.-H. TAN, K.-H. YEO and M. I. NIK JAAFAR	1609	The use of enzyme-linked immunosorbent assay for the quantitation of *Calloselasma rhodostoma* (Malayan pit viper) venom and venom antibodies
J. C. MARR, T. HU, S. PLEASANCE, M. A. QUILLIAM and J. L. C. WRIGHT	1621	Detection of new 7-*O*-acyl derivatives of diarrhetic shellfish poisoning toxins by liquid chromatography–mass spectrometry
Short Communication S. FUKIYA and K. MATSUMURA	1631	Active and passive immunization for tetrodotoxin in mice
Bibliography of Toxinology	1635	
Erratum	1637	
International Society on Toxinology—Membership Application	i	
Volume Contents and Author Index, Volume 30	I	